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ART. V. — *The New American Orchardist ; or an Account of the most Valuable Varieties of Fruit, of all Climates, adapted to Cultivation in the United States, with their History, Modes of Culture, Management, Uses, &c., and the Culture of Silk ; with an Appendix on Vegetables, Ornamental Trees, Shrubs, and Flowers.* By WILLIAM KENRICK. Second Edition, Enlarged and Improved. Boston : Russell, Odiorne, & Metcalf. 1835. 12mo. pp. 418.

THAT Agriculture, in some form or other, always has been, and always must be the great source of subsistence to every community, is a truth generally admitted, though we are inclined to think not appreciated in its full extent. To develop and illustrate it, would be neither a difficult nor unpleasant task. Such, however, is not our present object. Our business is with that branch of this great art, which, from the scale on which it is carried on, is denominated Gardening. This, as a practical art, is generally supposed to be coeval with the human race, and its existence is recognised in the earliest records of man, authentic or fabulous. Passing over antediluvian history, we find the planting of the vine commemorated, as the first achievement of human industry after the deluge. But horticulture, like other branches of agriculture, had ministered for ages to the support and enjoyment of the human family, before any one had attempted to embody and promulgate any systematic rules for its practice. Few histories would be more interesting, than a connected narrative of its early progress ; but the materials for constructing such an account are exceedingly scanty. We are still ignorant, for instance, as justly observed by McKnight, of the native localities of the most highly prized fruits ; and we are equally at a loss respecting the origin of some of our most important and familiar operations in gardening. The origin of grafting, a practice, which, if introduced in our day, would procure for its inventor a place among the proudest names of modern science, and the still higher title of one of the chief benefactors of his species, is mere matter of conjecture ; and the stories handed down to us on this subject, by Pliny and other ancient writers, have neither the merit of truth nor of ingenuity.

In modern times as in ancient, the actual practice of horticulture has preceded, by a long interval, the scientific development of its principles ; and in every community gardens have been cultivated for centuries, previous to the publication of works on gardening of the slightest authority or value. Our own country, young as it is, forms no exception to this remark.

The general existence of fruit trees, in all the compact settlements of New England at least, dates back far beyond the memory of the oldest persons now living. The apple tree must have been cultivated on a considerable scale in the earliest periods of our colonial history ; for we find from the following extract from Laws of the Plymouth Colony, passed in the year 1667, that cider was then a common beverage.

“ It was enacted by the Court, that no person or persons shall sell any cyder to any Indian, under the penalty of ten shillings, &c. And that none allow any persons to spend their time by tippeling any cyder, liquors, &c. in their houses ; and that in case any cyder be found in the custody of any Indians, it shall be lawful for any man to take it away from them.”

A still more striking evidence of the horticultural taste of our forefathers exists in the celebrated pear tree brought over by Governor Endicott. This is still standing in the town of Danvers, and boasts a green and fruitful old age, after the lapse of more than two hundred years from its emigration.

The more delicate fruits, such as the peach and the finest varieties of French pears, were introduced at least as early as the first part of the eighteenth century. According to the tradition prevailing in this vicinity, we are indebted for these valuable productions to the Huguenots, who came over from France in large numbers about that period ; and, though the positive evidence in favor of this supposition is but scanty, there seems no good reason for calling it in question. At any rate, the peach tree at least must have been well established among us previous to the year 1724. This we are authorized to infer from a passage of that date in the curious Diary of the late Reverend Thomas Smith, of Portland, in which he speaks of this tree as of a plant generally known and cultivated. We learn from the same work, as well as

from other sources, that the plum and the cherry tree were raised to an equal extent more than eighty years since.

But while the culture of fruit trees has been extensively pursued in New England for so many generations, the few horticultural works which have been published among us are of very recent origin. Agriculture in its more restricted sense could boast, more than a hundred years ago, of the works of Jared Eliot, the father of New England husbandry ; but the earliest production, partaking in any material degree of a horticultural character, was the "New England Farmer," a journal which was first published in 1825, and which still maintains its reputation as a most effective instrument in promoting that striking improvement in the cultivation both of our fields and our gardens, so manifest within a few years. Previous to this publication, we had little other written horticultural information than such as might be found scattered through the almanacs. This, as might have been expected, was of an exceedingly desultory and mixed character, consisting entirely of occasional and brief suggestions, of very different degrees of merit. While the reader was frequently edified by practical statements of important facts, he was quite as often deceived or amused, as the case might be, by the strangest stories and precepts, many of which reappear from time to time, and run the circle of the newspapers. Such, for instance, are grave suggestions, recommending the inoculating of the stocks of trees with mercurial ointment and the kindling of bonfires in gardens, in order to take off the myriads of noxious insects by poison, or to induce them to exterminate themselves in a general conflagration. To these we may add the still more extraordinary assertions, that the scion of a pear tree, when grafted on an apple stock, gradually changes its nature and at length produces apples, or that a fruitful apple tree may be procured in two or three years from a cutting which has been inserted into a potato, doctrines which have found a place in some of the most respectable journals, and apparently gained much credence among their readers ; circumstances, by the way, which should induce us to speak with some lenity of Virgil's well-known fables respecting the grafting of the apple on the oak, and the procuring a new race of bees from the carcass of an ox. It is no wonder, that book-learned skill was held in little repute by practical farmers and gardeners, that an agricultural

author was considered as another name for a visionary theorist, and that the few really valuable works, native or foreign, which we possessed on these subjects, were generally condemned unread.

Such was the state of our horticultural literature (so to speak), till within the last ten years. It is scarcely necessary to remind the reader, that a new era has now taken place in the cultivation of gardens as well as fields. Horticulture is now becoming a subject of deep and increasing interest, and the necessity of enlightened and regular efforts for its extension and advancement is daily more and more understood. It seems to be now conceded, that the art of cultivating the soil, like every other important art, has its science, its general principles as well as its practical details; that there must be written works, in which facts must be precisely stated, and rules systematically laid down; and that young gardeners should no longer be compelled to grope their way, one after another, in a mere course of hap-hazard experiment, with little useful light except that afforded by the result of their own errors. These convictions have not failed to produce their natural and proper results. Within the period just mentioned, we have witnessed the publication of several works relating professedly and exclusively to the cultivation of gardens, composed by experimental practical gardeners, and therefore abounding in solid information, and at the same time written with a sufficient degree of perspicuity and neatness to render them acceptable to the mere general reader. Such, for instance, are the two horticultural magazines published in Boston, and the works of Bridgeman, Green, and others.

Of these works, that now before us may be considered as one of the most valuable, and, though certainly of a very reasonable compass, one of the most voluminous. It is evidently compiled with great research, as appears by the catalogue of authors consulted, which comprises the names of nearly all the distinguished gardeners of this and other countries. The liberal manner in which the author acknowledges the assistance received from different individuals is as creditable to his candor, as the use which he has made of his abundant materials is to his skill and judgment. The greater portion of this volume consists of an extensive and well-selected list of the most valuable and beautiful trees, shrubs, and flowers, which will flourish in our climate, interspersed

with brief, but just and sufficiently complete directions for their cultivation. The most interesting portion of the work to the public generally will probably be the Introduction. This is divided into several sections, relating to the cultivation of fruit trees in general. The first section contains some valuable remarks on the climate of the United States, and more especially of the Atlantic region. For many obvious reasons, our climate (we speak chiefly of New England) has been more frequently compared with that of Great Britain, than with that of any other portion of the European world. Few are ignorant of the fact, that there is a wide difference, and in many respects a striking contrast, between the seasons in the one country, and the other. It is generally known, that our winters are much longer and more severe, than those of much higher latitudes in the Eastern world. It is equally notorious, that our extremes of temperature are greater, and the changes from heat to cold more sudden and violent, than any which occur in the British Islands, and that the American climate was never more correctly as well as concisely described, than in the elegant remark of Washington Irving, that it is "fierce in all its extremes, but splendid in all its vicissitudes." We know not whether the origin of these peculiarities has been fully ascertained; and do not propose to discuss, or even to state, the most plausible theories which have been formed on the subject. The following remarks are as satisfactory on the whole, as any which we have seen.

"The climate of the Atlantic States has been generally characterized as variable and inconstant. These sudden changes are caused in a great measure by the conflicting winds, which blow alternately from the opposite points, — the sources of extreme heat and of excessive cold. Those especially from the southeast, and south, bring alternately clouds charged with sultry vapors, or storms of rain, or the fiery particles and intense heat which they have inhaled in the equinoctial regions. While the winds from the northwest are not only dry, but, coming over the enormous mountains covered with ice and snow, and from the immense frozen territories which stretch towards the Arctic regions, and thence westward, and from the great icy ocean towards the pole, they imbibe, at certain seasons, a degree of cold the most piercing and intense. These adverse winds bring by turns, and often by sudden changes, the heat of the tropical, or the extreme cold atmosphere of the polar regions." — pp. 15, 16.

“It has also been observed, that within the temperate zones, the *western coasts* of continents, and large islands, are found to possess a higher mean temperature than the *eastern coasts*. Our climate, on the shores of the Atlantic, must, therefore, correspond nearly with that of the eastern coasts of China, Japan, and Chinese Tartary, and the islands on its coast. And the climate of our country which bounds on the Pacific, may correspond nearly with that of Europe on the coasts of the Atlantic, in the corresponding latitudes.” — p. 17.

But, however we may speculate on the cause of the superiority in mildness of a British winter over that of any part of the New England States, this superiority is too well verified by precise facts, as well as by common report, to admit of question. The northern counties of Scotland, for instance, lie in latitude nearly sixteen degrees north of Boston, and only two degrees south of Cape Farewell in Greenland, and yet in those counties, ploughing is frequently carried on in the month of February, a season in which the ground in Massachusetts is open scarcely once in a generation. The blowing of roses in the open air at Christmas is mentioned by English writers as a familiar occurrence, while we need not say, that it is altogether unparalleled in our vicinity. Hence many plants, which endure the cold of the greater part of England, are altogether incompetent to brave the rigor of a New England winter.

Nor is it the coldness of our climate, which renders it so dangerous to tender plants, and which so greatly abridges our catalogue of hardy perennials. The great and rapid variations, which usually occur in the winter months are far more perilous to vegetable life. The fluids of plants are often set in motion by a short period of vernal warmth, and then congealed by the sudden renewal of frost. In winters of steady though severe cold, the more tender garden shrubs generally escape with little or no injury. This is more especially the case if the ground has been hidden for a long period beneath a deep bed of snow. The surface is thus covered as with a thick fleece, and completely protected from all variations of temperature. Our mildest winters, on the contrary, are often the most destructive of all ; for, mild as they may be on the whole, they are rarely without occasional intervals of intense cold ; and this unnatural alternation is fatal to many species of vegetable productions, which pass without

the slightest injury through the far more equable as well as milder temperature of a British winter. But, on the other hand, of those plants which can fairly endure the winter months, the greater part ripen their products with far more certainty in the Northern States, than most parts of England. We are accustomed, it is true, to consider our spring as a most variable and uncomfortable season, and to fancy that Shakspeare must have drawn from our vernal months his beautiful picture of the disordered seasons.

“ Hoary-headed frosts
Fall in the fresh lap of the crimson rose,
And on old Hiems’ chin and icy crown
An odorous chaplet of sweet summer buds
Is as in mockery set.”

Indeed, Cobbett asserts, with good-humored and not very violent exaggeration, that we have no spring at all, and divides, by a sort of Polish partition, the province usually assigned to that season between summer and winter.

But our real spring, or blooming season, call it by what name you will, is we apprehend less perilous to most productions of the garden, and especially to most fruit trees, than the corresponding period in England. The same writer subsequently remarks, that “in this country, when we see the blossom, we know that the fruit will follow; but that in England and France the trees must be often covered to protect them from the untimely frosts of April and May.”

This remark, or so much of it at least as relates to this country, may be too strongly expressed, but in the main it seems to be well founded.

That our summer days are brighter and warmer than those of England is a fact which needs only to be stated, and the mildness and splendor of an American autumn are proverbial throughout Christendom. But the superiority of the American climate (even in the Middle and Northern States) *for the raising of fruits*, over that of Great Britain, is best attested by the different modes in which fruit trees are reared in the two countries. In most of those States the summers are sufficiently warm to enable the apple and pear tree, and even the plum and the peach, to ripen their fruits perfectly well as natural standards; and, with the exception of a few curious gardeners, no one deems it necessary to resort to any artificial mode of training either of these plants. In England, the peach is almost universally a wall fruit, and

the pear and plum tree are very generally dwarfed and trained against walls or espaliers.

Even those more delicate species of apples, usually cultivated on a small scale in gardens, are generally raised in the same artificial mode. Yet, with all these appliances, we are inclined to think, that the fruits of England are on the whole greatly inferior in flavor to those of this country. Mr. Kenrick informs us, that some of the finest kinds of American peaches prove utterly worthless when grown in England, and that the whole tribe of clingstones especially are given up by the gardeners of that country, as a fruit altogether unfitted to the climate. He adds, that many of the best apples share the like disastrous fate.

The comparison between English and American fruits, in point of flavor, does not admit perhaps of being brought to an issue of the most decisive kind. To do this they must be tasted at the same moment; and, with the exception of the apple, none of the best garden fruits can be transported in good condition from the one country to the other.

So far as relates to this fruit, we believe, there is no question. There are indeed a few kinds of English apples highly celebrated in the horticultural works of that country for their rich flavor; but we believe their superiority over Pippins, Baldwins, and other American apples of the first class, has never been established by any satisfactory evidence. But, if we compare together such apples as are exposed for sale in the great markets of the one country and the other, (and we know not why this is not a fair mode of comparison) we believe that no candid Englishman would hesitate to admit that the result would be greatly in our favor.

Indeed, the cloudy and moist climate of Great Britain would seem to be one of the last, to ripen to perfection the more delicate fruits of the temperate zone. These, it will be recollected, originated for the most part under the bright and scorching suns of southern Asia, and, at the present day, are generally better in Italy and the south of France, than in any more northern region of Europe. The truth is, that all the fine fruit in Great Britain is dearly earned; wrung, as it were, from a frowning climate, by a combination of profound skill and patient effort; a striking proof, far more of human intelligence and industry, than of any fitness in the soil and sky of that island for horticultural purposes.

What advancement might not be made in our horticulture, were one tenth part of the science, capital, and labor, devoted to its improvement, which are expended on the same object by English gardeners.

Some further light may be thrown on this interesting subject, by a few remarks on the principal fruits usually cultivated in the open air, in Massachusetts and the adjoining States.

Of these, the first in importance is the Apple. This is the only fruit generally raised in New England in orchards, and its cultivation may therefore be considered as standing on the dividing line between Horticulture and Agriculture. We have already adverted to the early period at which this description of tree was introduced. How well it thrives in our climate, has been shown by the experience of more than two centuries. We believe there is scarcely a corner of New England, except perhaps the disputed territory, in which it fails to produce fruit, in great abundance and of good quality ; and we have been informed, that many of the most delicious varieties of apple are raised in the State of Maine, where they were introduced by the lamented Benjamin Vaughan. It is well known, that there is one species of this fruit (*malus coronaria*) which is indigenous to the United States. This is rarely seen in the Eastern States, but in the State of Illinois grows in such abundance, as to form natural groves of miles in extent. We are not aware, that this species has long been raised on account of its fruit, which is very small, of a green color, and sharp acid taste, and barely eatable ; but its blossom is uncommonly fragrant, and this circumstance has given it a place in many gardens as a flowering shrub. Its very existence is probably unknown to New England farmers generally. The fruit raised in the Northern States is, for the most part, the product of native seedlings, derived by a longer or shorter chain of descents from English ancestors.

The practice of procuring fine apples by grafting is, we believe, of modern introduction in this country, and, half a century since, was practised by none but a few curious cultivators. The course generally adopted by New England farmers from the beginning, for the supply of their orchards, has been, to sow the *pomace*, or crushed pulp of the apple, which is taken from the cider-mill after the juice is expressed, and

which, of course, abounds in seeds. Hence, the many kinds of apple which may be found in every orchard of natural, or, in other words, ungrafted trees. The selection of seeds for the purpose of procuring valuable new varieties, has seldom, if ever, been adopted; and thus our finest specimens of this fruit are mere chance productions. This is known to be the case with the beautiful Baldwin apple, of which the parent tree was in existence till within a few years. There can be no doubt, that such varieties could be greatly and rapidly multiplied by a recourse to the more systematic and scientific modes of propagation pursued by Knight, Van Mons, and other distinguished European botanists. It is often said, that the apples of New England are inferior in quality to those of the Middle States; and it has been consequently inferred, that the climate of that region is better adapted to this fruit. We think the assertion, as well as the inference, quite too hasty. Both are probably founded on the acknowledged superiority of one of the apples of the Middle States, the far-famed Newton Pippin. This rich fruit, has, it is true, no rival in New England, nor, as far as we know, in any other country. It seems equally certain, that the tree rarely flourishes in the climate of Massachusetts, and, though it grows well, proves a very shy bearer. But, if we except this unrivalled variety, we know of no apple which throws into the shade the different, but striking merits, of the Baldwin and the Russet.

We deem it unnecessary to speak at great length of the various uses of the apple in the domestic economy of New England. Every one knows, that, for several generations, this fruit furnished not only much of the food of our predecessors, but their chief beverage, and that cider held the same place for more than a century in the northern states, which has been occupied by light wines in France, or malt liquors in Great Britain. From this position it has recently been driven, at least in large towns. In these it has been exposed to a double competition, from the French and German wines on the one hand, and the pure element on the other, and seems to be falling rapidly out of favor. Should its use, however, be from any cause wholly abandoned, we have the consolation of knowing that our orchards will lose little or nothing of their value. Various and important as have been the purposes to which the apple has

been applied in former times, the list of its acknowledged merits has been greatly increased within a very few years. It is now known to form not only an agreeable, but a most nourishing article of diet, both to men, and to domestic animals, and is especially in high credit, among the most intelligent farmers, for its utility in fattening swine, a race not apt to relish or to thrive upon unsubstantial fare.

As a matter of profit there are few objects to which the capital and labor of a skilful farmer can be better devoted than to the rearing of good apple trees. Few plants require a more moderate degree of care, or reward that care more bountifully. Seven or eight barrels of apples form by no means an unusually large product for a thrifty tree, and we have seen well-authenticated accounts of some, which have borne no less than four times that quantity.

It has been stated by one of the ablest and most exact writers on agriculture, that, a few years since, one hundred and sixty barrels of apples were gathered from an orchard in the town of Dorchester, of less than two acres, (exclusive of a large quantity of windfalls,) and that the whole product of the orchard amounted to not less in value than three hundred dollars. The size to which this tree attains in New England, and the healthiness of its condition, form, in addition to its productiveness, a striking proof of its adaptation to our climate. We have heard of trees of twelve feet in circumference in the smallest part of the trunks, and have seen several of nine. When the tree reaches a mature age, it bids defiance to our coldest winters and most uncertain springs; and, if guarded from the assaults of insects, seems invulnerable to all injuries from natural causes, except those inflicted by the universal and resistless power of old age. At what period it is subjected to these, is a point which is not yet fully ascertained, but which has been investigated with much care by the writer to whom we have just referred. From the best information which he could collect on the subject, he has been led to conclude, that an apple tree generally requires a growth of thirty years to bring it into its most fruitful condition, and that its term of vigor and decay occupies about the same period; in other words, that the average life of the tree may be estimated at about sixty years. It appears, however, that, in some few instances, this tree like most others, is indulged with a term of existence far beyond the

limits assigned to its species generally. Thus we are told by the same writer, of an apple tree in Hartford, said to have been imported before the middle of the seventeenth century. Although this statement is not very precise, yet from many other circumstances there seems to be no doubt that the tree has outlasted at least two generations of its fellows. It has certainly outlived its usefulness, for we learn that it produces only a few dozen of apples from some scattered branches near the top, and that it exhibits many marks of extreme decay. Similar instances of extraordinary longevity may be found in many other classes of vegetable productions, and must be considered merely as rare phenomena, analogous to those formed by the lives of Thomas Parr and Henry Jenkins, in the history of our own species.

The general proposition laid down by the above writer is, we believe, substantially correct ; and, if it be, the average life of apple trees varies little from that of our own species. Consequently the orchards from whence we derive our present supplies are almost entirely of a growth subsequent to the Revolution. Hence also, if the modern doctrine respecting the decay of all varieties of cultivated fruit be true, a point on which we shall presently say more, few if any of our present favorite apples are the same with those which regaled the palates of our grandfathers.

Next to the apple, the fruit tree most generally cultivated in New England is the Pear. This has sometimes been reared in orchards for the manufacture of perry, but is for the most part confined to gardens. To a common observer this tree bears a strong resemblance to the apple tree ; but the researches of botanists, as well as the experience of gardeners, have shown, that the affinity is merely superficial. The wood of the pear is much harder than that of the apple, and, probably for this reason, it is exempt from the destructive attacks of the borer. Its leaves also escape, from some unknown cause, those two formidable and wide-wasting enemies of our apple orchards, the cankerworm and the caterpillar. On the other hand, it is exposed to the ravages of insects which have never been detected on any other fruit tree. But the most striking proof of dissimilarity in the internal structure of the pear and apple is found in the fact, that the one can rarely be grafted on the other with eventual suc-

cess, and that, though the scions do not absolutely refuse to *take*, they scarcely ever flourish, and generally soon perish.

The pear tree also differs essentially from the apple in its superior longevity. This has been stated by Mr. Knight at no less than three centuries. We cannot but deem this assertion founded in error, or at least that it is a hasty general inference, drawn from the protracted existence of a few individuals in uncommonly favorable situations. But there is abundant evidence, that the pear on an average outlasts the apple by more than half a century. We have already noticed the tree planted by Governor Endicott, which probably stands, in point of seniority, at the head of the cultivated plants of the country. There is a tree still in bearing near New York, which was planted by Governor Stuyvesant, and is designated by his name, which boasts of an age inferior only by thirty years to that of the Endicott tree.

For the finest ancient varieties of this tree we are unquestionably indebted to France, a fact attested not only by their names, but by the uniform evidence of tradition, to which we have already referred. The unfortunate and striking circumstance, that many of the choicest of these varieties are rapidly verging to extinction, both here and in Europe, and that this melancholy process has commenced within the last half century, is one which could not fail to arrest the attention of scientific gardeners. The fact was long disputed, and, when it had forced itself into credit and notoriety, many flattered themselves with the belief, that it was owing to a temporary cause. It was accordingly ascribed to some change in climate, or some mysterious disease, and it was hoped, that after a cycle of years, more or less extended, these trees would resume their former vigor and fruitfulness. The contrary doctrine was first broached, or at least first earnestly maintained by Mr. Knight of England; and to him, if to any one, we must award the credit of promulgating the theory of the limited existence of cultivated varieties of fruit, which now seems generally admitted. He found, by repeated experiments for many years, that the scions of many of the finest and most celebrated varieties of apple and pear could no longer be successfully inserted on younger stocks, and that the parent trees themselves gradually became less productive, and, except in sheltered situations, ceased to live. He thence drew the general conclusion, that all buds or scions

which are taken from any seedling fruit tree, as well as all branches which spring from them to an indefinite extent, are in a certain sense mere extensions or portions of the original parent ; in other words they partake of its constitution and cannot outlast it (unless it be prematurely cut off), for any long period. When the term of their existence expires, the variety of fruit which they bear is irrecoverably lost, because, as its existence cannot be protracted, so neither can it be renewed by planting the seed. For every gardener knows, that the seeds of most, if not all our cultivated fruits, *sport* to a greater or less degree, and that the trees, which spring from them, almost universally yield, not the same fruit, but one of a different, and in many instances of inferior flavor.

The degree to which this sporting extends varies materially in different fruits. The stone of a fine peach may be sown with a reasonable prospect of procuring a fruit of similar qualities. On the other hand, the same experiment may be tried with hundreds of pear seeds, without succeeding in more than two or three instances ; and with respect to the cherry the variation seems to be still greater. Thus we perceive, that every variety of cultivated fruit springs from one parent tree ; and when this tree has finished its course, the variety itself, as we have already observed, must soon follow.

Such is a brief and imperfect statement of the celebrated doctrine respecting the decline of ancient varieties of cultivated fruits. This doctrine was certainly an unwelcome one. Few lovers of good fruit were willing to admit, that the decline of the choicest trees in health and fertility, was owing to a permanent and irresistible law of nature, and could neither be prevented nor delayed by any human effort. The theory was accordingly attacked by many zealous and ingenious writers, with very different degrees of fairness and ability ; and though, as we have observed, it seems now to be a prevalent, is far from being an undisputed one.

As year after year, however, affords additional evidence in its favor, or, at any rate, as the fact of the decline of some of the best fruits, more especially of the pear kind, is becoming more and more incontestable and manifest, the replacing of these, by new and fresh varieties of equal value from the seed, is now an object of the most earnest and unremitting efforts of the leading horticulturists of Europe.

No one pursued this great object with more science, per-

severance, and success than Mr. Knight himself ; and no one is more entitled to the gratitude of lovers of horticulture, for the constant liberality, which he displayed in diffusing the beneficial results of his labors. The services, rendered by him in this respect to our own country, are we trust too well known to render any further statement of them necessary.

Those, who wish for a detailed description of the different modes adopted both in England and Belgium for the production of new fruits, are referred to the Introduction of Mr. Kenrick, and to our horticultural magazines. This country is not altogether without its examples of striking success in this interesting branch of gardening. It could hardly have been expected, that these examples should be very numerous. To procure a new variety of fruit from the seed requires, in most cases, a period of at least five years, a delay which, in our stirring and impatient community, is regarded much in the same light in which a Dutch, or even an English gardener, would look forward to the term of a generation. But, omitting all mention of original fruits which have been produced in other States, several delicious varieties of pears have been raised in Boston and its neighbourhood, which may compete with the choicest productions of the gardens of Knight or Van Mons. Those who complain of the attention and patience which nature exacts, as the price of her most delicious products, would do well to take a lesson from the perseverance and equanimity displayed by the latter of these distinguished cultivators, under repeated discouragements of a different and far more distressing character.*

The Peach, as we have already stated, has been raised in the larger towns of New England for more than a century. We know not, however, whether this delicious fruit can be fairly claimed as a New England production. It has been little cultivated in the interior of the most northern States, and in Massachusetts is almost confined to the maritime districts. Even here, it must be admitted that the climate is too rigid to raise it in its highest degree of perfection, or in constant abundance. The tree seldom passes through a severe winter without the loss of some of its smaller branches, as well as material injury to its trunk and larger limbs. It has been supposed by many persons, that our seasons have be-

* The whole story may be found in Fessenden's *Magazine*, for 1830, pp. 228 to 230.

come less favorable to its growth than in former times ; but this we are inclined to think a mistaken impression, founded on early recollections of no very precise character. The truth is, this plant should be regarded, in New England, less as a tree than a short-lived shrub. With a few exceptions, its life in this vicinity cannot be estimated at more than fifteen or twenty years, and this term is often shortened by its tendency to grow, and in favorable seasons to bear, to excess. It is also subject to the attacks of insects of different species, some of whom prey upon the leaves, and others mine into the trunk. The cultivation of this tree seems as yet to be very imperfectly understood in the Eastern States. It well repays all the protection which it can derive from a sheltered and sunny exposure, and grows best in a light and warm soil. But how far it should be pruned, and in what way, are points on which the best authorities are greatly at variance. Little useful information can be derived on the subject from English works, as in Great Britain the tree is almost universally trained against walls, and as it grows under our fierce summer suns with a luxuriance, to which no parallel can be found under the temperate skies of the northern portions of Europe.* But probably no system of management could ensure to it either long life or regular fruitfulness, in any part of New England ; and the only mode of securing a constant supply of the fruit seems to be the continual rearing of new trees.

The peach seems to be placed, by general consent, at the head of all the fruits of the temperate zone, and is considered by most inhabitants of that region as without a rival in any part of the globe, except perhaps the far-famed mangostan of the tropics. It has derived its Latin name from Persia, a country to which all authors assign the honor of its birth, though the evidence on this point is quite too scanty to enable us to decide either way with great assurance. We are told, that the tree was brought to Rome in the reign of Claudius, about the year 40 of the Christian era. From one or two epigrams of Martial, the fruit appears to have been raised in forcing-houses, or pits, under glass. Sir Joseph Banks even supposes, that these houses were heated with flues ; but

* This remark perhaps admits a more general extension. Chancellor Livingston estimated the growth of trees in a summer of the Middle States, compared with their growth in the same period in France or Great Britain, as five to two.

this conclusion seems to be unsustained by any sufficient evidence. We are told, that the first peaches raised at Rome were poisonous ; and this assertion is deemed by many a proof, that the peaches then known were of very inferior quality. The idea, however, may have been a mere prejudice, like that often prevailing in most communities against newly-discovered agricultural productions. Every one knows the difficulties which the potato has encountered, both in our own and other countries, in making its way into general favor ; and we believe that the peach itself was, forty years since, esteemed an unwholesome fruit by many in this vicinity. There is every reason to suppose, indeed, that the peaches of the ancient Romans differed materially in their flavor from any kind now known ; as the existence of any given variety of this, or indeed any other kind of fruit, for two thousand years, is a bold, and if there be any truth in the doctrine above referred to, an absolutely incredible supposition.

We have already alluded to the high antiquity from which the culture of the Grape may be dated ; and we may add, that it has always been carried on to a greater extent than that of any other fruit. It is well known, that the product of the vine constitutes one of the great staples of all the countries of southern Europe. As it needs, and indeed prefers a light soil, it enables those nations who enjoy a climate favorable to its growth, to turn to the best account many rocky hills, which, in northern regions, would produce nothing better than a scanty pasturage.

Various attempts have been made to form vineyards in different portions of our own country, with very unsatisfactory results. The vines of Europe seem ill fitted to sustain the winters of the Northern States, and, even in the more southern regions of the Union, are said to suffer materially from violent changes of weather. Indeed, the raising of foreign grapes in the open air, in the Eastern and Middle States at least, seems to be nearly relinquished ; and hence the formation of vineyards of this description in those States, may be considered as out of the question. To insure the ripening of the best table grapes of France in the vicinity of Boston, certainly requires the protection of glass, and we believe the aid of fire also. Happily these expedients can be employed without the slightest disadvantage, as no fruit

seems to preserve its natural fresh and rich flavor, under artificial culture, more effectually than the grape.

The vines of this country, though resembling those of Europe in their form and mode of growth, bear a fruit so widely different, that perhaps it should be rather termed a berry than a grape. The most common, and in the opinion of many botanists the only species of American grape, *vitis Labrusca* or fox grape, is indulged with a much wider range of climate than any of its European kindred, since it endures alike the cold of the most northern States, and the tropical heat of the Island of Cuba. Several varieties of this plant exist in every part of the Union ; but, though differing from each other in color, shape, and flavor, most if not all of them agree in a few prominent characteristics. The leaf is of a larger size, much thicker and less delicate than that of foreign vines, and the fruit is distinguished by a thick, opaque skin, a tough pulp, and an acid drop in the centre, qualities forming a disadvantageous contrast with those of the transparent and luscious products of European vineyards. Still, as this vine has the high recommendation of hardiness, and as it produces a wholesome, and to many a palatable fruit, it has certainly been treated with undeserved neglect.

The raising of new kinds from the seed has been attempted with much success by a few of our best gardeners, and is well deserving of more general attention. There is little doubt that we might thus acquire, in a few years, many descriptions of this plant, possessing the vigor and hardiness of their progenitors, and yet producing fruit which might rival in delicacy several of the grapes of Europe.

The sixth section of our author's Introduction, contains some brief directions on the important subject of Transplanting. Most of these, we believe, may be advantageously followed. We doubt, however, the expediency of treading down the earth forcibly, and pouring on large quantities of water immediately after setting the tree in the ground. Both these practices are pointedly condemned by some of the most experienced writers on horticulture, and the last, more particularly, seems to be a most unnatural and injurious expedient. We doubt not that many trees have been destroyed, or permanently injured, by a mode of treatment, adapted only to purely aquatic plants. If the ground be moist, and the tree transplanted at the proper season,

which is admitted to be either the spring or autumn, little else is requisite, than to allow sufficient room for the roots, and to spread them carefully. Even these moderate precautions are often neglected. "Many people," says Marshall, "seem to think that they transplant a tree properly, when they merely hide it in the ground." To ensure success in any mode of transplanting, it is of course a prerequisite that the tree *be properly taken up*; and this process is frequently performed with such haste and violence, that all subsequent care must be vain. How often are trees torn from the soil with the loss of three quarters of their roots, and these of course the smaller fibres, through which every tree derives the chief part of its nourishment. Indeed, it is the difficulty, as well as importance, of preserving these rootlets unimpaired, which renders it advisable to transplant all trees whatsoever at an early stage of their growth. We have heard it said, that the larger portion of every tree is under ground; in other words that the roots are much more widely spread than the branches; and certain it is, that they extend themselves, downwards and around, to a degree altogether unsuspected by common observers. Hence a great portion of them is often left in the ground on the removal of the tree, which thus receives its death-wound in the very act, and survives only to linger out a sickly existence in its new location. We believe it is now a general opinion among skilful gardeners, that nothing is gained by transplanting trees of more than two or three inches in diameter at farthest.

We are aware that these remarks are in direct opposition to a practice lately adopted in Scotland, and, as we are told by some writers of that country, with complete success. It is well known, that, within a few years, attempts have been made to transplant trees of mature age, and thus anticipate the tardy progress of natural growth, and raise magnificent groves and avenues in a single season. We are informed that thousands of trees thus removed are now growing at various country seats in Scotland, with as much luxuriance as if originally planted in their present localities. It is further said, that these splendid results may be effected at a very moderate expense, inasmuch as the removal of a tall tree of a foot in diameter can be effected for thirty shillings sterling. We cannot but think, that the success of the experiment has been depicted in quite too flattering colors; and we are still

more confident, that the cost is greatly underrated. The removal of trees of a large size in this country, with a proper quantity of root to afford the tree the slightest chance of surviving, would require an expense of at least ten times the amount stated above ; and no proper allowance for the different price of labor in New England and Scotland, respectively, will enable us to account for so wide a diversity. We have known some conspicuous instances, in which the experiment of removing trees of large magnitude and many years' growth has been fairly tried ; and, though in each case the greatest care was taken, the manner in which the trees have grown, since transplanting, is any thing but encouraging to similar enterprises. The labor and expense attending the operation were such as would of themselves render the practice, as a general one, entirely out of the question.* We cannot but think, therefore, that those, who would adorn their grounds with magnificent trees, should wait for the slow but sure operation of Time, in place of resorting to an expedient, which, to say nothing of its expense, requires to be tried by a long and general experience, and of the success of which we have as yet none but imperfect, and apparently not very impartial, statements.

Whether trees can best be transplanted in the spring or autumn, is one of the vexed questions of horticulture. Our author gives a decided preference to the months of October and November. In this, however, he stands opposed to the prevailing sentiment and practice of American cultivators, who generally select the spring, although the busiest season of the year. We have heard it suggested by an eminent

* In confirmation of this remark, we quote the following extract from Lockhart's *Life of Scott*, Vol. V. p. 232, (Philad. edition,) merely reminding our readers, that the price of labor is much higher with us than in any part of Scotland.

"In September, the Highland Society of Scotland, at the request of the late Sir Henry Stewart of Allanton, sent a deputation to his seat in Lanarkshire, to examine and report on his famous improvements in the art of transplanting trees. Sir Walter was one of the Committee appointed for this business, and he took a lively interest in it, as witness the Essay on Landscape Gardening, which, whatever may be the fate of Sir Henry Stewart's own writings, will transmit his name to posterity. Scott made several Allantonian experiments at Abbotsford, but found reason, in the sequel, to abate something of his enthusiasm as to the *system*. The question, after all, comes to pounds, shillings, and pence ; and, whether Sir Henry's accounts had or had not been accurately kept, the thing turned out greatly more expensive on Tweedside, than he had found it represented in Clydesdale."

botanist, that autumnal planting is better adapted to the climate of Great Britain than to our own, inasmuch as our long and rigorous winter may often destroy the smaller roots of newly-planted trees, before they have fairly established themselves in the soil. It is to be wished, however, that the practice should have a thorough trial; for cultivators are so severely tasked to keep pace in their operations with the rapid progress of vegetation in our rapid spring, that much would be gained by the transfer of so important a branch of husbandry to a period of more leisure.

We pass over those parts of our author's Introduction which relate to propagation, pruning, grafting, and inoculation. These operations are described with great brevity and precision, and in truth the mode of performing them is much better learned from observation and experience than from the perusal of any description whatever. The tenth section treats of the artificial means by which the fruitfulness of trees may be increased. Most of these, such as dwarfing by ingrafting on a tree of smaller growth, — by inserting, for instance, the scion of the pear on a quince stock, — training more or less horizontally, &c., are well understood in this country. They are, however, seldom practised; and, with a very few exceptions, our fruits are the growth of standard trees. We are rather surprised to find the practice of debarking, or stripping the whole tree of its outer bark, down to the *liber*, recommended as one of these expedients. A tree might possibly be rendered more fruitful for a single season, but we apprehend, that in our climate, at least, the loss of its health, if not of its life, would soon and inevitably follow. A single winter of the Northern and Middle States, must prove a severe trial to a tree thus stripped of the larger part of its natural covering. Of this we have striking evidence in the effect of the early winter of 1831–2, a season which will long be remembered by gardeners in this vicinity. Thousands of young fruit trees were destroyed by the sudden setting in of cold weather, while older trees, of exactly the same description, were protected by their thick bark, as by a coat of mail.

The concluding section of our author's preliminary chapter treats of noxious Insects. Any treatise on agriculture would be indeed incomplete, which should omit all mention of this great branch of the animal kingdom. It has been

supposed by one of the first entomologists in our country, that the bodies of all the insect tribe, if collected together, would form a larger mass than those of all other tribes of animals united. Those numerous species which derive their food from the vegetable creation, have long been the most dreaded enemies of the farmer and gardener. It is a general maxim, that the most wonderful results, good or evil, in the works both of nature and of man, are effected by the joint agency of numerous individuals, each of whom separately would be utterly unworthy of serious notice. To no topic can this remark be applied with more force, than to that now before us. Separately contemplated, nothing can be more contemptible than the insects which prey on our fields or our gardens ; but their immense swarms render their ravages often as resistless and as destructive, as those of the lightning or the tornado. Human skill and strength can avail little against enemies, which escape our notice by their minuteness, elude our grasp by their agility, or defy our power by their countless numbers. The following remarks, of the late Dr. Dwight, will recommend themselves to our readers by their good sense, as well as their piety.

“ Nothing can more strongly exhibit the dependence or the littleness of man, than the destruction of his valuable interests by such minute, helpless beings. The animals, which from our infancy we regard with terror, are the fierce and voracious inhabitants of the desert, the serpent, the catamount, the tiger, and the lion ; but these mercifully on the part of Heaven are few in number, solitary in their life, and unfrequent invaders of human happiness,—sources rather of solemn amusement and fireside affright, than of rational or even real anxiety. The great army which God sent upon the Jews, *before which the land was as the garden of Eden and behind as a desolate wilderness, on account of which an alarm was sounded, a fast sanctified, and a solemn assembly proclaimed*, was levied from the tribes of the cankerworm, the caterpillar, the palmer-worm, and the locust. These, and their compeers, have been in all ages the army of God, which has humbled the pride, frustrated the designs, and destroyed the hopes of man.” — *Travels in New England*, Vol. III. p. 301.

Scarcely any fruit tree is so fortunate as to be liable to the attacks of only one species of insect ; and a bare catalogue of those tribes, which may be found engaged in their destructive work in every garden, would occupy several pages. There are three descriptions, however, whose ravages are far more

extensive and conspicuous in New England orchards and fruit gardens, than those of any of their fellows, viz. the several species of borers, the cankerworm, and the caterpillar. A complete and convenient remedy against the first two is yet a desideratum. The borers it is true, both of the apple and the peach trees (for they are two very different insects), may be kept from their respective favorites, by a collar of any hard substance placed around the tree, just at the surface of the ground, the point at which both these assailants make their first inroads. The cankerworm, also, may be checked effectually by the process of tarring. But the application of these remedies is extremely inconvenient and troublesome, and requires a degree of attention and vigilance, which few are willing to exert. The caterpillar is completely within the control of every cultivator, who exerts only an ordinary degree of diligence. This is owing to the gregarious habits of these insects, who retire together at night to their nests, and do not leave them till the morning is far advanced. Hence they may be easily destroyed in their encampments ; and, if the process is repeated at short intervals, the tree may be thoroughly cleared.

The brief sketch here given of our author's Introduction, will, we hope, serve to recommend his work to such of our readers as feel interested in its subject, and these, we trust, form a large and increasing class. There are few changes which we contemplate with more satisfaction, than the increased interest in the progress of agriculture, recently displayed by the people, as well as the rulers, of this and the neighbouring States. It is not now our purpose to speak of field cultivation, in other words of agriculture, strictly so called, though certainly nothing is more desirable, than that its immense importance should be duly estimated by men of all vocations. But the more elegant art of horticulture, that which bears the same relation to its substantial kindred art, which the graceful capital bears to the massy shaft, this, however pleasing to its true votaries, was till lately pursued by comparatively a very small number, and altogether neglected and disregarded by the community generally. A few years since, for instance, it was scarcely possible to procure the more delicate fruits, at any price, while thousands were every year expended on luxuries of a more doubtful character. Delicate fruits are now rapidly multiplying in our cities and

their environs ; and those, who distinguish themselves in the rearing of them, may hope for a large reward, not only in profit but in reputation. Few, indeed, can render greater services to the civilized world, than it has derived from the labors of skilful and discriminating cultivators of these exquisite productions. If he who makes two spires of grass grow where one grew before, is a public benefactor, what shall we say of him, who introduces or who disseminates a new variety of delicious fruit, and thus contributes to the innocent and salutary pleasures not only of his contemporaries, but of nations yet unborn. The gratification, thus ministered to each individual singly, may be deemed trifling ; but, when we consider the number so gratified, how immense is the aggregate of human enjoyment. How long and how gratefully must such a gift be remembered. Of what moment to us, are the undaunted valor, and consummate generalship, displayed by Lucullus in his victories over Mithridates ? They served only to bring one more gallant monarch into subjection to the haughty and gigantic power, whose iron sceptre has long since been shattered,— to add one more jewel to the diadem, which has been for ages trampled in the dust. But the taste and assiduity of the Roman general in naturalizing the cherry tree to the climate of Europe, have entitled him to the grateful commemoration of sixty generations. The empire, which France labored to establish on this continent, has long since passed away. The chain of fortresses which she erected on our northern and western borders, with so much skill and at such a cost, is rapidly vanishing from the soil. Her very language is fast departing from those regions, before the silent and peaceful progress of our institutions. But the orchards of magnificent and venerable pear trees, planted by French settlers on the banks of the beautiful Detroit River, yet remain, a noble monument to the honor of the parent country of modern horticulture. How few can hope for a reputation so extensive, so enduring, and so enviable, as that which will be awarded, both in his country and ours, to Thomas Andrew Knight. How long and how highly shall we honor the memory of this high-minded Englishman, as the disinterested and unwearied benefactor of our infant horticulture ? How nobly has he exemplified the great truths, that the firmest loyalty to our own country is compatible with the utmost liberality towards others, and that, when the

culture of the soil is in question, our views should know no other bounds than those of the great family of man. A few years, we trust, will show that there are those among us, who will emulate his truly honorable, though peaceful, achievements.

We speak from high authority, when we say, that the friends of horticulture in Europe are turning their eyes anxiously to this country. They are looking to our bright skies and fresh soil, for new varieties of delicious fruits, to supply the place of those, which, after centuries of existence, seem at last to be yielding to the lot of all earthly productions. Hopes so just and reasonable are surely not destined to return void. To some of our readers, the importance which we attach to our subject may seem exaggerated, if not ridiculous. Such may remark, that horticulture can form the chief business of life with very few; that generally it deserves no other name than that of an amusement; that, even in this point of view, it is better adapted to a country abounding in men of wealth and leisure, than to an economical and industrious community like ours; and that it is utterly absurd to speak of it as a subject which deserves to excite a deep and general interest.

Objections like these, however, have been frequently made among us to every secular object of pursuit, except those two leading objects of effort and ambition, wealth and political distinction. We would not refer either to the one or the other of these, with any cynical asperity. The pursuit of property has often been spoken of, by the mere votaries of literature, in a style which is any thing but creditable to their own good sense and candor. The honest enterprise of large classes who are busily engaged in providing for the reasonable comfort of their families, or in accumulating money not for its own sake, but for the sake of what may be procured and imparted by its liberal use, has been stigmatized by the name of avarice; and the unwearied industry and judicious frugality, which form the solid foundation of so many splendid virtues, and by which New England now is, and we trust ever will be distinguished, have been more than once made the theme of contemptuous reproach. Still it should be recollected, that the most active business is not without many intervals of leisure, and that the pursuit of property occupies the whole time of no individual, certainly of no large number of individuals. "Generally speaking," says one of

the most elegant writers of the present age, "our occupations leave us time enough, if our passions would but spare us."

Nor is it certain that property, or indeed any other great object, is pursued with most success by those who allow themselves least time for repose or recreation. A pursuit, which is absolutely exclusive and unremitted, is very apt to become a feverish one ; and he who pauses occasionally from his labors may gain more in cool reflection than he loses in actual effort. The late Stephen Girard certainly met with a degree of success in his regular vocation, which should satisfy the wishes of any reasonable aspirant ; and yet it is well known, that much of his time was devoted to the cultivation of a country-seat in the vicinity of Philadelphia, and that he pursued this recreation with the same zeal and exactness, which rendered him so conspicuous in the commercial world. A very small portion of the surplus capital, and leisure time, of the most active men of business in any of our large towns, might place its neighbourhood, to a wide extent, in a state of high cultivation, scarcely paralleled in the most beautiful districts of England or Belgium. It is only the taste and spirit, which are requisite ; and any means, by which these can be enkindled or diffused, must be highly valued by every true patriot.

What we have said of the pursuit of wealth, admits of a like application in regard to that of political distinction. That in a country like ours a passion for such distinction should be often indulged to a high degree, is perhaps unavoidable, and those who are under its control, certainly earn their reward. We should be the last to speak slightly of honors of any description, which are fairly earned and gracefully worn. We know, that the government of a free country is one, which can be well carried on only by the application of a large portion of the talent and character of the community ; and we are aware also, that something of the time and thoughts of every good citizen must be given to the watchful inspection of the conduct of his representatives. We entertain little respect for those, who feel or affect an utter indifference in relation to all political transactions, but who generally are the first to lose their equanimity when the bad consequences of public measures press severely on their own interests ; and, much as we deprecate political bitterness, we

deem it more respectable, as well as less perilous, than political apathy. But it is certainly far from desirable, that the active and aspiring spirits of the country should consider political life as the only sphere of public usefulness, and the only passage to honorable distinction, or that political events should constitute (as they have done in former times) the all-absorbing topic of social conversation.

It will be perceived, that the above remarks apply more particularly to the inhabitants of the principal towns and their environs. It is to be expected, that horticulture should advance more rapidly to a high state of excellence in districts where the large markets render it a profitable pursuit to the mere gardener, while the amateur is more effectually inspired by the sympathy and example of a dense neighbourhood. We trust, however, that its progress will not long be limited to such narrow bounds. Among the farmers, constituting in this country, as in all others of large extent, the great majority of the population, this art is, we believe, already emerging from its neglected condition. Considered as a mere amusement its claims are of no slight moment; for how often has it been remarked, that the amusements of a community, as they strikingly indicate, so are they most important in determining, the national character. Many of the rougher sports of the rural population of other days are now becoming obsolete; and what employment is better fitted to supply their places, whether we regard its physical or moral effects, than horticulture? Its soothing and purifying influence have been the theme of praises too trite, as well as too generally admitted, to need repetition.

There is an especial reason which should lead us to desire the general extension, throughout the community, of the culture of gardens, and more especially of fruit gardens; we mean its effects on the progress of Temperance. To all the strenuous efforts now making for the promotion of this great moral object, we need not say how cordially we bid "God speed." But it is a cause in which no fair auxiliary should be rejected, and few will be found more effectual than choice fruits. A fondness for these and for the fiery products of distillation cannot long exist together in the same individual; and, with a fair opportunity, the contest between them cannot well be a doubtful one. It has been said, that the use of a single fruit, we mean the coffee berry, has served more

effectually to check the use of ardent spirits, than all other causes united, previous to the formation of Temperance Societies.

Our remarks have been limited, almost exclusively, to that more substantial branch of horticulture, which forms the main topic of Mr. Kenrick's work, the rearing of fruit trees. The still more elegant and delicate pursuit, that in which the poetry of gardening, so to speak, chiefly consists, we mean the cultivation of Flowers, is a topic deserving to be considered at far greater length than we could allow to it on the present occasion. We shall therefore close our remarks by some general suggestions in relation to the means of rendering horticulture, in all its branches, a more common and favorite pursuit. One of the most effectual of these means is certainly, as we have already intimated, the publication of judicious elementary treatises. It cannot be expected, however, that such productions should become at once very numerous, or that they should always be composed in the manner best calculated to effect their object. Books of this character are generally written by men belonging to one of two classes, those who practise gardening as a regular business, and those who speculate upon it as theorists. The practical gardener may want the power of communicating his knowledge in a popular style; and the mere amateur is still more likely to be deficient, in that acquaintance with facts, which are necessary to render his elegant essays of direct, practical value. In other words, works of the one class will generally be made up of dry instructions, and those of the other will possess scarcely any thing of an instructive character. The truth is, an extensive knowledge of gardening is in this country rarely found in any one except a professed gardener, because the study of the general principles of agriculture and horticulture is nowhere made a part of our early education. Scarcely any other art of high practical importance is thus neglected. It is well known, that all systems of instruction in the United States are of a general and superficial character, resembling more those of Scotland than of any other foreign country. The student is taught the rudiments of a great variety of important branches of knowledge, instead of being thoroughly instructed in a small number.

It would be an interesting task to trace the causes, as well as the consequences, of this marked peculiarity; but this

would be foreign to our purpose, and we presume that the fact is unquestioned. We accordingly find the elements of almost every important art incorporated in the text-books of our principal seminaries. It would be deemed a very insufficient reason for passing over such topics, that, in most cases, they will have no immediate and constant connexion with the regular business of the pupil in after life. Hundreds of students are every year compelled, for instance, to study the first principles of architecture or navigation, although nine tenths of the number never advance any further in the practice of those arts, than to drive a nail, or steer a pleasure-boat. While it is admitted as a general principle, that no one can be a proficient in any thing but his peculiar business, it is deemed in most cases a misfortune, not to say a discredit, in any one claiming the name of a well-informed man, to be utterly ignorant in relation to any subject of high moment to the welfare of the community. Now, although the paramount importance of agricultural pursuits over all others is unquestioned, we suspect there is scarcely a school or college in the country, where a single hour is devoted to the elucidation of their leading principles ; and we doubt not, that many have finished their academical course, able, perhaps, to repeat whole volumes of metaphysics in the words of the author, while they have not merely acquired no knowledge, but have formed no conception, of those familiar operations of the farmer and gardener, to which they are indebted for their daily food. Surely some few days of the ten years of pupilage through which so many of our youth pass, might be profitably given to subjects so interesting, as well as so important, as these.
